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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,125	08/21/2003	Daniel C. Birkestrand	ROC920030189US1	7107
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IBM CORPORATION, INTELLECTUAL PROPERTY LAW DEPT 917, BLDG. 006-1 3605 HIGHWAY 52 NORTH ROCHESTER, MN 55901-7829			EXAMINER ZHE, MENG YAO	
			ART UNIT 2109	PAPER NUMBER
			MAIL DATE 05/30/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/645,125	BIRKESTRAND ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	MengYao Zhe	2109	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 to 37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 to 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/21/2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/27/07, 8/23/03</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This is the initial Office Action based on the 10/645125 application filed on 8/21/2003.

#### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 8/16/2004 and 11/26/2004 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the Examiner has considered the IDS as to the merits.

#### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: FIG.1, FIG.2, FIG.3, FIG.4, and FIG.5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1 to 37** are rejected under 35 U.S.C 102(b) as being anticipated by Lumelsky et al., Patent No. 6,460,082 (hereafter Lumelsky).

As per claim 1, Lumelsky teaches

**A method for expanding resources available to a logical partition associated with a client, the method comprising: associating partition resources of the logical partition with a grid; (Column 4, lines 45 to 65, Column 5, lines 5 to 55, Column 7, lines 25 to 50 Figures 1, 2, and 4: Lumelsky teaches a Meta-resource packaging system that a Meta-server uses to pool in service units provided by different servers across the network. As of a result, an application may use service units from different servers. An application that**

*requests for various services corresponds to the recited client. The distributed computing environment in Lumelsky corresponds to the recited grid. Meta-resource corresponds to the recited logical partition.)*

**providing grid resources from the grid to the logical partition based upon usage of the partition resources, wherein the grid resources are available to the logical partition; and** *(Column 4, lines 45 to 65, Column 5, lines 5 to 40, Column 7, lines 25 to 50)*

**providing on-demand resources to the logical partition based upon the usage of the partition resources and a usage of the grid resources when the grid resources are available to the logical partition.** *(Column 8 second paragraph, Column 14, second paragraph: Lumelsky discloses compensation, which happens when a resource envelope projected by a service unit may incorrectly estimate the resource requirements needed to provision the service object. Therefore, additional resources may be allocated. Envelope is a packaging method where it defines certain characteristics of the service unit. Compensation is the equivalent of on-demand resource.)*

As per claim 23, it claims for a medium containing program. It has all the instructions necessary to perform the method of claim 1. Since claim 1 is rejected, claim 23 is rejected as well.

As per claim 30, it is a method claim that is capable of performing the same method step as claim 1. Since claim 1 is rejected, claim 30 is rejected as well.

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As per claim 36, it is a method claim that is capable of performing the same method step as claim 1. Since claim 1 is rejected, claim 36 is rejected as well.

As per claim 2, Lumelsky teaches **the method of claim 1, further comprising metering a usage of the grid resources by the client to determine a cost to assess the client.** (*Column 7, lines 45 to 54, Figure 2, unit 169: cost is defined by service signature within a service unit*)

As per claim 24, it claims for a medium containing program. It has all the instructions necessary to perform the method of claim 2. Since claim 2 is rejected, claim 24 is rejected as well.

As per claim 3, Lumelsky teaches **the method of claim 1, further comprising metering a usage of the on-demand resources by the client to determine a cost to assess the client.** (*Column 14, second paragraph, Figure 2, unit 169: Compensation is a form of service unit, and all service units has a cost associated with it.*)

As per claim 25, it claims for a medium containing program. It has all the instructions necessary to perform the method of claim 3. Since claim 1 is rejected, claim 25 is rejected as well.

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As per claim 4, Lumelsky teaches **the method of claim 1, wherein associating partition resources comprises enabling allocations from the grid resources to the logical partition.** (*Column 4, lines 45 to 65, Column 5, lines 5 to 40, Column 7, Figures 1, 2, and 4*)

As per claim 26, it claims for a medium containing program. It has all the instructions necessary to perform the method of claim 4. Since claim 4 is rejected, claim 26 is rejected as well.

As per claim 15, it is an apparatus claim that contains all the components necessary to perform the method of claim 4. Since claim 4 is rejected, claim 15 is rejected as well.

As per claim 5, Lumelsky teaches **the method of claim 1, wherein associating partition resources comprises registering with the grid at least a portion of partition resources associated with the logical partition, to allow the portion to be allocated to other logical partitions associated with the grid.** (*Column 8, first paragraph, Column 5, lines 23 to 26: a service unit may be packaged into one envelope or meta-resource or another envelope or meta-resource. Remote authority is responsible for associating and registering.*)

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As per claim 6, Lumelsky teaches **the method of claim 1, wherein providing grid resources comprises: determining an unallocated portion of the grid resources and allocating the unallocated portion of the grid resources to the logical partition.** *(It is inherent in Column 15, lines 10 to 40, that service units will be provided to a request based on availability. That is, if a resource is not in use, it will be packaged into a service unit to be used by the application making the request.)*

As per claim 7, Lumelsky teaches **the method of claim 1, wherein providing grid resources comprises: determining that use of partition resources has at least reached a partition utilization threshold and allocating an unallocated portion of the grid resources to the logical partition.** *(Column 14, Column 16, lines 10 to 37: A critical threshold exists so that if it is exceeded, compensating service unit, which is also part of the distributed system or grid, takes over to provide more service units.)*

As per claim 16, it is an apparatus claim that contains all the components necessary to perform the method of claim 7. Since claim 7 is rejected, claim 16 is rejected as well.

As per claim 27, it claims for a medium containing program. It has all the instructions necessary to perform the method of claim 7. Since claim 7 is rejected, claim 27 is rejected as well.

As per claim 31, it is a method claim that is capable of performing the same method step as claim 7. Since claim 7 is rejected, claim 31 is rejected as well.



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As per claim 8, Lumelsky teaches the method of claim 1, wherein providing on-demand resources comprises: determining that use of partition resources has at least reached a partition utilization threshold (*Column 16, lines 10 to 37*); determining that sufficient resources are unavailable from the grid resources (*Column 12, lines 29 to 45, Column 14, lines 20 to 43*); and allocating an unallocated portion of the on-demand resources to the logical partition. (*Column 12, lines 29 to 45, Column 14, lines 20 to 43*)

As per claim 17, it is an apparatus claim that contains all the components necessary to perform the method of claim 8. Since claim 8 is rejected, claim 17 is rejected as well.

As per claim 28, it claims for a medium containing program. It has all the instructions necessary to perform the method of claim 8. Since claim 8 is rejected, claim 28 is rejected as well.

As per claim 32, it is a method claim that is capable of performing the same method step as claim 8. Since claim 8 is rejected, claim 32 is rejected as well.

As per claim 9, Lumelsky teaches the method of claim 8, wherein providing on-demand resources further comprises: determining that usage of the grid resources has at least reached a grid utilization threshold (*Column 16, lines 10 to 37*); requesting an enablement code to enable the on-demand resources; and allocating an unallocated portion of the on-demand resources to the logical partition. (*Column 12, lines 29 to 45, Column 14, Column 16, lines 10 to 37, Column*

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*10, lines 40 to 60: A key-exchange mechanism is disclosed by Lumelsky that ensures access rights to resources. This corresponds to the enablement code.)*

As per claim 29, it claims for a medium containing program. It has all the instructions necessary to perform the method of claim 9. Since claim 9 is rejected, claim 29 is rejected as well.

As per claim 10, Lumelsky teaches a method for expanding resources available to logical partitions associated with a client, the method comprising:

**registering resources with a grid as grid resources** (*Column 7, lines 10 to 27*); **allocating grid resources to the logical partition after utilization of partition resources by the logical partition reaches a first utilization threshold;** (*Column 9, lines 15 to 36, Column 12, first two paragraphs: There are two types of resources, local and global. Each has a percentage associated with it, which corresponds to first threshold. If one type of resources is used up, the other one gets used.*)

**allocating on-demand resources to the logical partition after the logical partition reaches a second utilization threshold for the grid resources;**

(*Column 16, lines 10 to 40: Logical partition corresponds to the Meta-resource, second threshold corresponds to critical threshold.*)

**and billing the client for usage of the on-demand resources.** (*Column 4, lines 45 to 65, Column 5, lines 5 to 40, Column 7, Figures 1, 2, and 4 and Column 15,*

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*lines 40 to 50: Lumelsky discloses a cost, so it is inherent that the clients are being billed.)*

As per claims 21 and 22, both are apparatus claims that contain all the components necessary to perform the method of claim 10. Since claim 10 is rejected, claims 21 and 22 are rejected as well.

As per claims 11 and 20, Lumelsky teaches **the method of claim 10, further comprising billing the client for usage of the grid resources to offset a cost associated with enabling the on-demand resources.** (*Column 4, lines 45 to 65, Column 5, lines 5 to 40, Column 7, Figures 1, 2, and 4 and Column 15, lines 40 to 50: the on-demand is part of the distributed system that provides the service units. Therefore the on-demand resources are being charged as well. Furthermore, The example given by Lumelsky in Column 15, lines 44 to 50 indicates that initially, there is an upper bound for cost of using grid servicing units. But the meta-server has the ability to provide services for less, thus offsetting later compensations.*)

As per claim 14, it is an apparatus claim that contains all the components necessary to perform the method of claim 11. Since claim 11 is rejected, claim 14 is rejected as well.

As per claim 19, it is an apparatus claim that contains all the components necessary to perform the method of claims 10 and 11. Since claims 10 and 11 are rejected, claim 19 is rejected as well.

Similarly, claim 20 is rejected as well.

As per claim 12, Lumelsky teaches **the method of claim 10, wherein billing the client for usage of the on-demand resources comprises billing the client for the on-demand resources allocated to the logical partition based upon actual usage of the on-demand resources.** *(Column 4, lines 45 to 65, Column 5, lines 5 to 40, Column 7, Figures 1, 2, and 4 and Column 15, lines 40 to 50: the service units included in the compensated units are either used or not used. Each unit has a cost associated with it.)*

As per claim 13, Lumelsky teaches **the method of claim 10, wherein billing the client for usage of the on-demand resources comprises billing the client for the on-demand resources allocated to the logical partition based upon a quantity of the on-demand resources allocated and the amount of time for which the quantity of the on-demand resources are allocated.** *(Figure 4: each unit has a cost per minute associated with it. It is inherent that the system is being charged by the amount of time the resources are being used.)*

As per claim 18, Lumelsky teaches all of claim 14. Furthermore, he also teaches a **second rate for the grid resources.** *(Figure 2: It is inherent in Lumelsky's teaching that a second rate exists since each service unit has its own cost associated with it, and a request may require multiple service units.)*

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As per claim 33, Lumelsky further teaches the threshold comprising an amount of resources used during a predetermined amount of time. *(Column 8, lines 39 to 60: resource usage is fixed to a number of time intervals allowed for usage.)*

As per claim 34, Lumelsky teaches **a first fee and a second fee**. *(Column 7, lines 29 to 67: Each service units has its own fee, and a compensation service unit has one too. So the fee for regularly assigned service units corresponds to the first fee. The fee for compensation service unit is the second fee.)*

As per claim 37, it is a method claim that is capable of performing the method step of claim 34. Since claim 34 is rejected, claim 37 is rejected as well.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MengYao Zhe whose telephone number is 571-272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M.Z.

  
JOSEPH DEL SOLE  
SUPERVISORY PATENT EXAMINER

5/25/07